

AMENDMENTS TO THE CLAIMS

Set forth below is a listing of the claims of the instant Application. Claims 1-9 are canceled and replaced with new Claims 10-21. Please enter of record for the instant Application the claims as listed herein.

Claims 1-9 (canceled).

3' Claim ¹~~10~~ (new): A method for measuring growth parameters of a multi-layer material while the layers are being built up comprising the steps of illuminating a layer during epitaxy under constant processing conditions with a constant illuminating energy and measuring the reflectivity of the layer over time to determine a position and a value of an extremum of Fabry-Perot oscillations of the layer and then comparing the position and the value of the extremum to a standard.

Claim ²~~11~~ (new): The method of claim ¹~~10~~ wherein the multi-layer material is a semiconductor.

Claim ³~~12~~ (new): The method of claim ¹~~10~~ wherein the position and the value of a first minimum of the Fabry-Perot oscillations is utilized.

Claim ⁴~~13~~ (new): The method of claim ¹~~10~~ wherein the growth parameters are process temperature, growth rate, composition or concentration of incorporated doping materials.

Claim ⁵~~14~~ (new): The method of claim ¹~~10~~, wherein the measured reflectivity is related to the reflectivity of a reference material, on which at least one layer of the reference material is built up.

Claim ⁶~~15~~ (new): The method of claim ⁵~~14~~, wherein the measured reflectivity is normalized.

Claim ⁷~~16~~ (new): The method of claim ¹~~10~~, wherein at the end of a process step or of the whole process, a layer of the same material as a substrate material, on which at least one layer is built up, is washed and its characteristics are compared with the characteristics present at the start of the process.

Claim ⁸~~17~~ (new): The method of claim ¹~~10~~, wherein the material properties are monitored at the same time, at least before the start and after the end of the process by an RAS measurement.

Claim ⁹~~18~~ (new): The method of claim ¹~~10~~, wherein the reflectivity at the position and the value of the extremum of the Fabry-Perot oscillations under consideration is used to determine the process temperature.

Claim ¹⁰~~19~~ (new): The method of claim ¹~~10~~, wherein the process time up to the position and the value of the extremum of the Fabry-Perot oscillations under consideration is used to determine the growth rate of the layers.

Claim ¹¹~~20~~ (new): The method of claim ¹~~10~~, wherein, when the process temperature is determined previously, a position and a value of an extremum of Fabry-Perot oscillations of a ternary layer under consideration is used to determine the composition of the layer.

Claim ¹²~~21~~ (new): The method of claim ¹~~10~~, wherein the illumination energy is selected in a range, in which the temperature dependence of a real part of a dielectric function of participating materials is monotonic.
